

*Artemisia filifolia* – *Ephedra* (*torreyana*, *viridis*) Shrubland

MAP CLASS	Sand Sagebrush Shrubland, Wupatki Wash System
COMMON NAME	Sand Sagebrush – (Torrey's Joint-fir, Mormon-tea) Shrubland
PHYSIOGNOMIC CLASS	Shrubland (III)
PHYSIOGNOMIC SUBCLASS	Evergreen shrubland (III.A)
PHYSIOGNOMIC GROUP	Microphyllous evergreen shrubland (III.A.4)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (III.A.4.N)
FORMATION	Lowland microphyllous evergreen shrubland (III.A.4.N.a)
ALLIANCE	<i>Artemisia filifolia</i> Shrubland Alliance

CLASSIFICATION CONFIDENCE LEVEL Weak

USFS WETLAND SYSTEM Upland

RANGE

**Wupatki National Monument**

Sand Sagebrush – (Torrey's Joint-fir, Mormon-tea) Shrubland is one of the most common shrubland associations in the south central section of the project boundary. This association was identified from our relevé data only within Wupatki NM lands; however, more extensive sampling in the project environs may result in expanded distribution ranges. Within Wupatki NM it was identified east of Black Mesa near Kana a Wash, Dead Man's Wash, Wukoki Ruins, Wupatki Ruins, and a Navajo's home site.

ENVIRONMENTAL DESCRIPTION

**Wupatki National Monument**

This association's elevation ranged from 4,380-4,888 ft (1,335-1,490 m) (average 4,724 ft/1,440 m) and slope ranged from 0-12% (average 5%). The substrate is black cinder with a layer of sandstone cobbles. This association is sometimes found in washes or sheetflow areas.

MOST ABUNDANT SPECIES

**Wupatki National Monument**

Stratum

Shrub

Species

*Artemisia filifolia*, *Ephedra torreyana*, *Ephedra viridis*

ASSOCIATED SPECIES

**Wupatki National Monument**

*Achnatherum hymenoides*, *Aristida purpurea*, *Artemisia bigelovii*, *Atriplex canescens*, *Artemisia dracunculoides*, *Atriplex confertifolia*, *Bouteloua eriopoda*, *Ericameria nauseosa*, *Eriogonum corymbosum*, *Fallugia paradoxa*, *Gutierrezia sarothrae*, *Lycium pallidum*, *Muhlenbergia porteri*, *Pleuraphis jamesii*, *Sphaeralcea parvifolia*, *Sporobolus airoides*, *Tetradlea coulteri*, *Yucca angustissima*, *Zinnia grandiflora*

VEGETATION DESCRIPTION

**Wupatki National Monument**

Sand Sagebrush – (Torrey's Joint-fir, Mormon-tea) Shrubland total vegetation cover ranged from 15-30% absolute cover (average 24%) with 15-34% (average 20%) in the shrub layer and 1-15% (average 6%) in the herbaceous layer. Diversity ranged from 7-27 species (average 12) within the 14 relevés sampled.

The shrub layer was not dominated by a single species but rather by a group of species that co-dominate. *Artemisia filifolia* is the only consistent shrub to occur within the association and functions as an indicator species. Its absolute cover ranges from low to moderate, 1-18% (average 6%). Other shrubs can occur and can dominate or co-dominate within this association but they do not have to be present. These main shrubs consists of *Ephedra torreyana* with 0-9% absolute cover (average 4%), *Ephedra viridis* with 0-4% absolute cover (average 1%), *Ericameria nauseosa* with 0-12% absolute cover (average 2%), *Gutierrezia sarothrae* with 0-9% absolute cover (average 3%), and *Atriplex canescens* with absolute cover 0-7% (average 2%). The herbaceous layer is not dominated by a single species.

**USGS-NPS Vegetation Mapping Program**  
**Wupatki National Monument**

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CONSERVATION RANK G?

DATABASE CODE Cegl002786

**MAP CLASSES**

The association Sand Sagebrush – (Torrey's Joint-fir, Mormon-tea) Shrubland is represented by map class Sand Sagebrush Shrubland (map code 19) and may also occur as a mosaic within the Wupatki Wash System (map code 24).

The Wupatki Wash System is a mosaic of associations that includes: *Sporobolus airoides* Herbaceous Vegetation, *Artemisia filifolia* – *Ephedra (torreyana, viridis)* Shrubland, *Atriplex canescens* / *Sporobolus airoides* Shrubland, *Atriplex canescens* Desert Wash Shrubland (Provisional), and *Fallugia paradoxa* – (*Atriplex canescens* – *Ephedra torreyana*) Cinder Shrubland.

The total areas mapped of Sand Sagebrush Mixed Shrubland within Wupatki NM is 1,888 ac (764 ha) within 80 polygons and the total area in the park environs is 42 ac (17 ha) within 8 polygons. The total area mapped of the complex Wupatki Wash System within Wupatki NM is 1,384 ac (560 ha) within 182 polygons and the total area in the park environs is 939 ac (380 ha) within 123 polygons.

**COMMENTS**

**Wupatki National Monument**

*Artemisia filifolia* is an indicator species within this association and can occur in low cover with other shrubs; these shrubs may not be listed in the NVC association name and may dominate cover in the shrub layer. *Artemisia filifolia*'s indicator status may need to be reassessed with additional relevé data.

**Note:**

This association is found in two different map classes:

- 1) [Sand Sagebrush Shrubland](#)
- 2) [Wupatki Wash System](#)